

The Environmental Cleanup of Marine Corps Air Station Tustin



April 1997

Tustin, California

No. 7

Cleanup Activities Complete at Former Fuel Tank Farm

The excavation and thermal treatment of 75,000 tons of soil from a former fuel storage tank area was completed in September 1996. This milestone activity in the environmental restoration program at MCAS Tustin cleaned up the fuel-laden soil to conditions acceptable for future reuse of the site as a residential area.

In July 1995, Marine Corps/Navy contractors began excavation of the soil laden with jet fuel at Tank Farm Area 22, also referred to as Installation Restoration Program (IRP) Site 16A. See Figure 1 on Page 2 for the site location. This soil was trucked to an on-site



The cleanup of fuel-laden soil was completed at Tank Farm Area 22 after 15 months of soil excavation, treatment, and backfilling activities.

treatment unit near the center of the base where it went through a thermal desorption process to remove the petroleum hydrocarbon components of jet fuel. The treatment unit heats the soil until the chemicals are vaporized. The vapors are then captured in a self-contained air pollution control system. The treated soil, which now meets federal and state environmental standards, was returned to the original excavation area as backfill.

While decontaminating Tank Farm Area 22, the contractor also pumped out nearly 5 million gallons of groundwater encountered during excavation at the site. The water was treated through a granular-activated carbon system, designed to filter out chemicals, and was used to rehydrate clean soil and control dust from the excavation activities.

This water recycling conserved resources and saved the Marine Corps/Navy thousands of dollars.

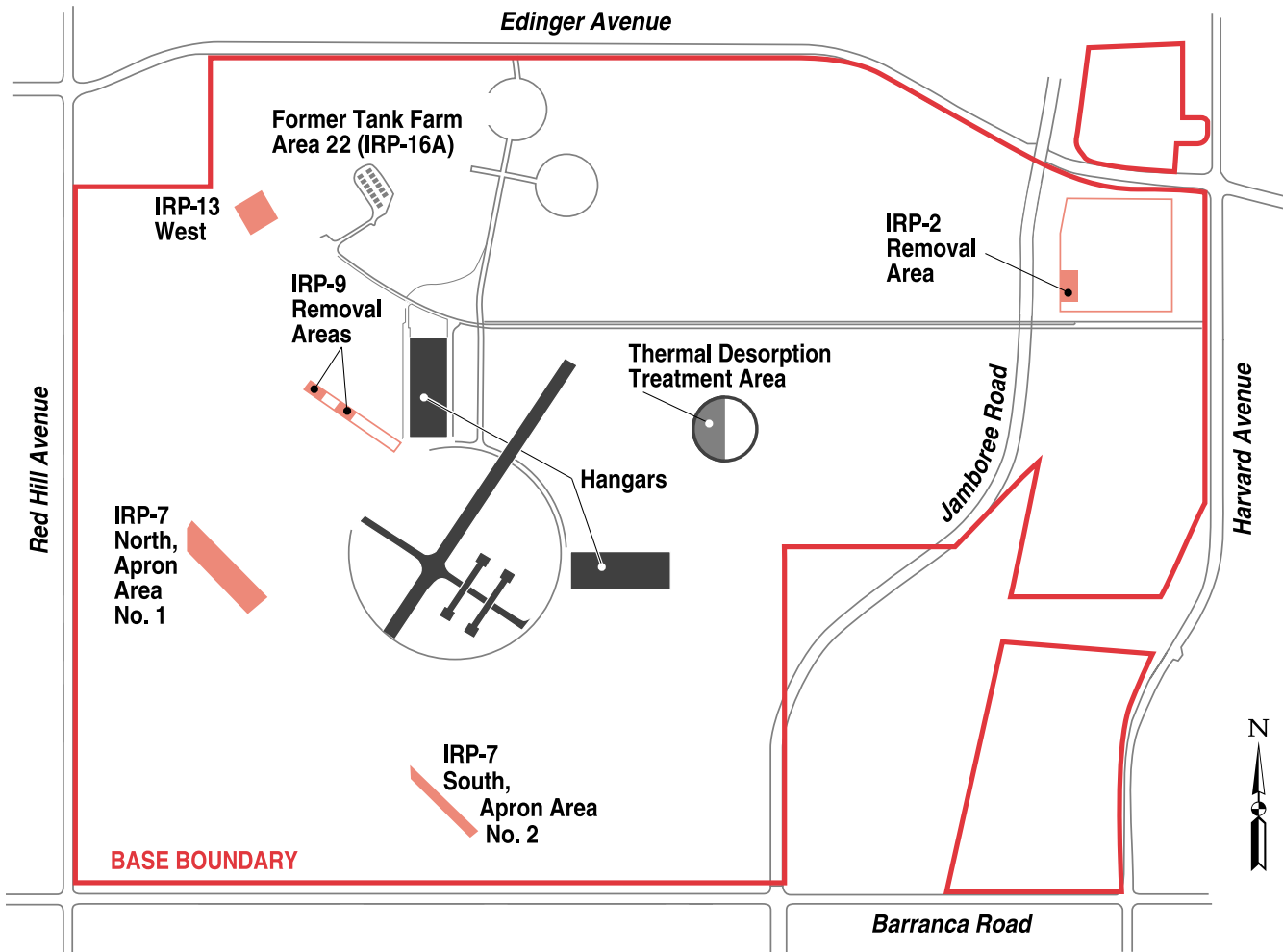
Base Realignment and Closure (BRAC) Environmental Coordinator Desire Chandler emphasized that a full-time health and safety officer was present during the excavation and pumping operations at Tank Farm Area 22. The officer is currently overseeing activities at other areas on the base to monitor air quality and ensure that all work is performed well within safety standards.

After the adjacent areas of the tank farm were cleaned up and confirmed to meet environmental safety standards, the treated soil was tested to ensure clean levels were met and returned to the site to backfill the excavated area. The site is now completely backfilled and graded to its original level. A dust suppressant was applied to the site and will be reapplied as needed to control dust until the site is developed according to the City of Tustin's Reuse Plan. In addition, the area will be seeded with native grasses to prevent erosion.

The thermal desorption unit is currently being used to treat soil from other areas on the base that have been found to contain petroleum hydrocarbons as a result of historical base operations. This on-site treatment activity is proving to save time and money for the Marine Corps/Navy as it prepares for operational closure of the base in 1999.

This is the seventh fact sheet in a series of communications issued during the environmental restoration process at Marine Corps Air Station Tustin. Watch for future fact sheets that will detail the progress of environmental activities and explain their importance in preparing MCAS Tustin for reuse and transfer to the public.

Figure 1 illustrates the location of the former underground storage tank area, Tank Farm Area 22. It also illustrates individual other sites which are currently being addressed under the Installation Restoration Program at Marine Corps Air Station Tustin.



Former Tank Farm Area 22, or Installation Restoration Program (IRP) Site 16A, was a tank farm and railroad area used for the delivery and storage of jet fuel, diesel, and oils that supported everyday operations at the base. Following the removal of 39 underground storage tanks in 1991, the Marine Corps/Navy tested the soil around the tanks and determined that jet fuel residues (petroleum hydrocarbons) were present in the soil and underlying groundwater at levels higher than those protective of human health and the environment.

Apron Area No. 2, IRP Site 7 South, consists of two helicopter rapid refueling stations, each capable of fueling up to six helicopters at a time. Site 7 North, Apron Area No. 1, is currently an active refueling station and Site 7 South, Apron Area No. 2, is no longer active. Between 1969 and 1982, several fuel-related releases and spills occurred on the pads and the residue washed off onto the surrounding soil.

Removal Area at IRP Site 2 (Oil Disposal Area) consists of a small area of soil within a former oil disposal area where wastes were reportedly poured or sprayed onto the ground surface from the back of a moving truck to control dust from 1970 to 1981.

Removal Areas at IRP Site 9 (Hangar No. 1 Line Shacks Area) consist of two small areas of soil around the flight line, temporary hazardous material and hazardous waste areas, and two former aboveground storage tanks. From 1971 to 1982, hydraulic fluids and waste oil from the storage areas and tanks were reportedly released onto the ground and washed down a nearby storm drain.

Drum Storage Area, IRP Site 13 West, is a former storage site where hydrocarbon liquids such as diesel and jet fuel were released onto the soil in the area.

Focus on Former Helicopter Refueling Area

Attention is also now focused on Site 7 South, Apron Area No. 2, an area in the southwestern portion of the base where a former helicopter rapid refueling station is located. As much as 80,000 tons of soil may have been contaminated by jet fuel in the southern area of the site. To date, more

than 20,000 tons of soil laden with jet fuel have been transported to the on-site thermal desorption unit (see bottom of Page 1). Work at Site 7 South is expected to continue through March 1997. Work at Site 7 North, a second refueling station, will begin after current refueling operations cease.

Cleanup Planned for Three Additional Sites

The Marine Corps/Navy has recently proposed cleanup actions for three additional sites around the base: Site 13 West (Drum Storage Area), a small area within Site 2 (Oil Disposal Area), and two small areas within Site 9 (Hangar No. 1 Line Shacks Area). The sites are being managed under the fast-track removal program since the environmental problems identified at these sites are relatively small, clearly defined, and can be remedied quickly. See Figure 1 for locations and a brief description of the sites.

As a part of this removal action process, the Marine Corps/Navy prepared Engineering Evaluations/Cost Analyses (EE/CAs), documents that identified cleanup goals and evaluated cleanup alternatives for each location. These documents also included a site description that summarized the types and extent of the chemicals found. In addition, the EE/CAs presented assessments of the potential health effects the chemicals could have on people if they were exposed to soil or groundwater from these areas. One EE/CA was prepared for Site 13 West and one was prepared for the small areas at Sites 2 and 9. These documents, as with all proposed cleanup plans, were reviewed by federal and state environmental regulatory agencies. The agencies have reviewed and concurred with the cleanup plans.

Public review and comment periods on the proposed alternatives (explained in detail in the EE/CAs) were held from June 14 through July 13, 1996 for Site 13 West and from November 11 to December 10, 1996 for Sites 2 and 9. More information on these cleanup proposals, including the investigation reports and cleanup technology evaluations, is available in MCAS Tustin's Information Repository (see last page).

Action Planned for Site 13 West

During the public comment period for this site, town hall meetings were held during which base residents

discussed concerns about the dust and noise control and timing of the removal action at Site 13 West. A tour of the site and a technical demonstration of the dust control measures that would be implemented during the excavation of an estimated 1,200 cubic yards of soil was held on September 12, 1996.

Activities will incorporate noise and dust control measures to minimize any possible impact on the base housing community and ongoing base operations.

Based on the residents' concerns, the schedule for base closure, and the prioritization of cleanup for sites around the base, the Marine Corps/Navy has prepared a detailed technical work plan for the cleanup of this site. Excavation is anticipated to begin in Spring 1997. The excavated soil will be treated at the on-site thermal desorption unit. This removal action is scheduled to take less than 3 months, and measures for dust, noise, and traffic control will be firmly in place.

Action Planned for Sites 2 and 9

The proposed cleanup alternative for the small areas at Sites 2 and 9 calls for the excavation of about 500 cubic yards of soil. Fuel, motor oil, and other chemicals used in helicopter maintenance and other base activities were disposed of at localized areas on these sites. The excavated soil will be treated in the thermal desorption unit and used as backfill material at the base after it is confirmed to be clean. As planned for Site 13 West, activities at Sites 2 and 9 will incorporate noise and dust control measures to minimize the possible impact on the base housing community and ongoing base operations.

Computer Systems Aid Environmental Restoration

The use of two innovative computer systems is supplying a big boost to planning and managing the environmental cleanup program at MCAS Tustin. These tools, used by the Base Realignment and Closure (BRAC) Cleanup Team, are

known as the Master Integrated Schedule (MIS) and the Geographic Information System (GIS).

The MIS is an all-inclusive management tool designed to assist the Marine Corps/Navy in planning and monitoring the cost and progress of the environmental cleanup and transfer activities at the base. The MIS provides valuable insight into how to meet — and possibly beat — the base's reuse and transfer objectives. The system allows the tracking of a wide range of work elements, including site investigations and cleanup work, the migration of Marine Corps units to other military installations, and property transfer and reuse activities on a parcel-by-parcel basis.

“The MIS provides a valuable link between schedules for cleanup activities, base closure, and parcel transfer,” says Desire Chandler, MCAS Tustin's BRAC environmental coordinator. “The MIS also helps us troubleshoot potential problem areas in advance.”

In addition to assisting in the overall scheduling of base activities, the MIS helps the Marine Corps/Navy in a variety of other ways, such as by tracking reports, budgeting for cleanups, and coordinating field work between the Marine Corps/ Navy and multiple contractors.

The GIS integrates vast amounts of complex data, maps, drawings, and photos into a coordinated package. The GIS also combines data about environmental conditions at MCAS Tustin with a variety of other analytical information from drilling logs, chemical analyses, and aerial photos. These data components are placed into a database and processed into two- or three-dimensional pictures that help the Marine Corps/Navy better understand how the cleanup and reuse program is progressing.

“The GIS is a useful tool in that it allows us to spend less time preparing data and more time on evaluation and decision-making,” says Chandler.

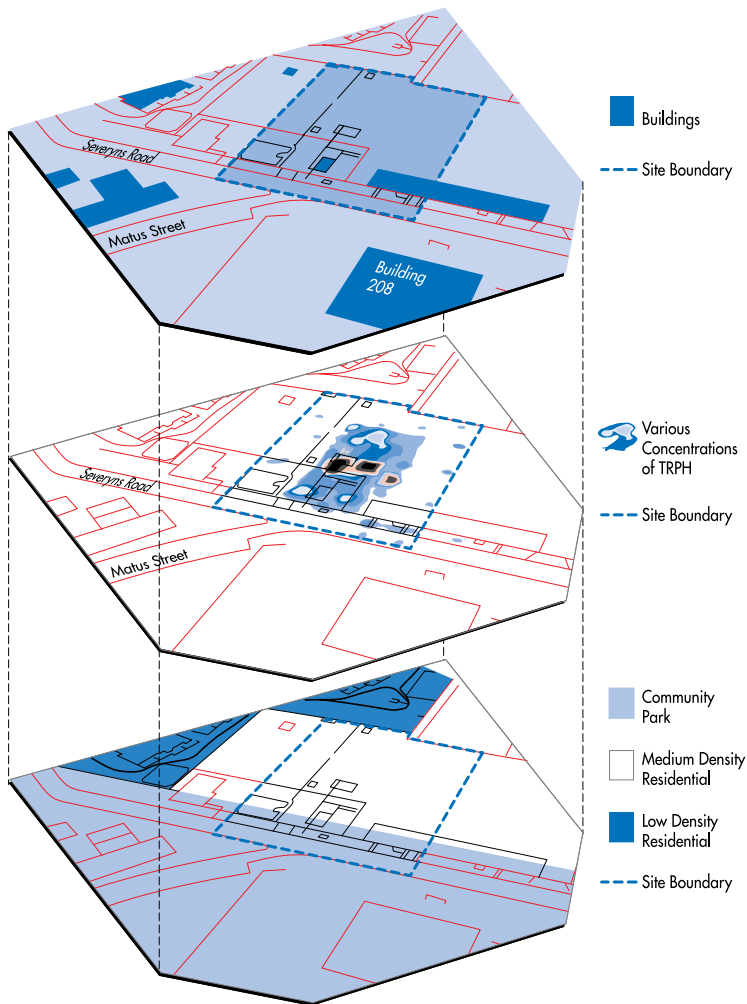


Figure 2. This figure is a three-dimensional picture from the Geographic Information System (GIS) of jet fuel residues, specifically total recoverable petroleum hydrocarbons (TRPH) found in the soil at Site 13 West. TRPH are a component of fuels which were historically used in this area. Currently, the site is secured by a fence. The cleanup action planned for this site will remove this component from the soil. The top layer shows the current physical layout of the site area, including roads, buildings, and the site boundaries. The second layer indicates the areas within the site containing TRPH. The shaded areas, which appear in many different colors on the original GIS graphics, indicate the varying amounts of TRPH found at approximately 1 to 2 feet below the ground surface. This layer tells the environmental restoration team where to focus cleanup efforts in order to protect human health and the environment and reduce future movement of the TRPH from the soil into the groundwater beneath the site. The bottom layer portrays the site and surrounding area as it will be used in the future, following base closure.

All Technical Activities Reviewed by Community Group

At MCAS Tustin, a volunteer group of Orange County residents gathers regularly to review, discuss, and provide input to the environmental decision-making process. This community-based Restoration Advisory Board (RAB), now 3 years old, meets regularly to ask questions about environmental investigation and cleanup activities on the base. With members of the Base Realignment and Closure Cleanup Team, the RAB also discusses cleanup costs, potential impacts on the community, and the preparation of base property for transfer.

In the past 6 months, RAB subcommittees have reviewed draft copies of the EE/CAs for Sites 2, 9, and 13 West. Environmental regulatory agencies, and the Marine Corps/Navy and their contractors, have also met with the subcommittees to consider the comments and issues raised by the RAB. The draft final documents, which were recently available for public review and comment, incorporated significant contributions from the RAB subcommittees.

New Community Cochair Elected

Susan Reynolds, a 10-year Orange County resident and charter member of the MCAS Tustin Restoration Advisory Board, was selected by fellow members to serve on the board alongside Desire Chandler, the cochair representing the Marine Corps/Navy. As a RAB member, Ms. Reynolds has actively participated in the review of several key technical documents related to the environmental restoration program. She brings a balanced perspective to her leadership role, both as an environmental consultant and a community member with an interest in the future of the base. "The Marine Corps looks forward to a busy year of cleanup activities, and we are pleased to have Ms. Reynolds at our side to make sure our efforts benefit both the neighbors of MCAS Tustin and the users of the property following base closure," commented Commanding Officer Col. Thomas Caughlan.

If you are interested in becoming a member of the Restoration Advisory Board, please complete the coupon below and membership information will be mailed to you.

MAILING COUPON

- ☐ I would like to be added to the MCAS Tustin environmental restoration program mailing list.
- ☐ I would like to receive information on Restoration Advisory Board membership.

Name _____

Street _____

City _____ State _____ Zip Code _____

Affiliation (optional) _____ Telephone _____

Mail to: Steven Matthews, Community Point-of-Contact, MCAS Tustin, Attn: HQ, BRAC, Code 2AS, P.O. Box 105001, Santa Ana, CA 92710-5001

For Additional Information

The Marine Corps/Navy encourages community involvement in the environmental restoration program at MCAS Tustin. If you have any questions or concerns about environmental activities at the base, please feel free to contact any of the following project representatives.

- Mr. Steven Matthews, Community Point-of-Contact, MCAS Tustin
(714) 726-5757
- 1st Lt. Matthew Morgan, BRAC Public Affairs Office, Marine Corps Air Bases, Western Area
(714) 726-3853
- Ms. Marsha Mingay, Public Participation Specialist, Department of Toxic Substances Control, California Environmental Protection Agency
(562) 590-4881

Information Repository

Documents relating to the environmental restoration efforts at MCAS Tustin are available for public review at the Information Repository.

University of California, Irvine
Main Library
Government Publications Department
Contact: Yvonne Wilson, 714-824-7362
or 824-6836 for library hours.

Interested community members may also contact the representatives listed on this page to arrange a review of these documents.

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